

TITLE: CHANGES IN SMOKE CHEMISTRY OF MODERN DAY CIGARETTES

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ABSTRACT: The origin of cigarette smoking can be traced to the Aztecs in South America. From there, the custom spread into Spain, throughout southern Europe, to Russia, to England, and thence finally to the US in the middle of the 19th century. At that time, first research in the identification of cigarette smoke components was carried out in Germany. Recognition of the difficulties in obtaining reproducible results and identifying critical smoking parameters, however, came much later; the first practical smoking machines capable of puffing in a controlled fashion were devised only in the 1930's in Germany and the US. Early cigarettes were highly varied and there were thousands of brands of various blends and configurations. Until the 1930's, the number of home-rolled cigarettes was still comparable to manufactured cigarettes. Cigarettes became standardized with the advent of a small number of dominating brands in the 1920's. The beginning of quantitative smoke analysis methodology coincided with the inception of filters and was immensely aided by the invention of new analytical techniques such as gas chromatography. From the 1950's on, cigarettes began to change rapidly. The main new parameters which had an effect on smoke chemistry included: cellulose acetate filters, papers of increased porosity, tip ventilation, reconstituted tobacco, expanded tobacco, dimensional changes, and blend and flavorant alterations. The chronology of the introduction and acceptance of the innovations is described and their effect on the chemical composition of smoke is discussed.

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